

needed, they can be issued back to the using units. Because the cargo parachutes are already packed, the system can be rigged in approximately 30 minutes. In fact, some systems can be pre-rigged and stored to be immediately available.

The duffel bag delivery system (DBDS) is an excellent way of resupplying a patrol without giving away the patrol's location if the drop is made at night. Using this system, too, squad-size patrols can establish cache points

throughout a sector to be used at a later date.

The DBDS also enables small unit commanders to tailor a load in response to immediate requests from units in battle, and having containers available for packing at the unit is a major benefit.

As units become lighter and smaller, their logistics support becomes a greater challenge. The faster supplies can be delivered to them, the less their soldiers will have to carry and the better chance those units will have of surviving and

completing their missions.

The DBDS is an immediate and alternate means of resupplying small units that lack the time, manpower, and resources to be resupplied on a timely basis by conventional methods.

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Thermal Gunnery Training

CAPTAIN STEPHEN E. BARGER

Thermal acquisition is a diminishing skill. During Bradley Table VIII B gunnery (crew night qualification), for example, crews often fail to acquire targets quickly enough to kill them within the standard time. Too often, units neglect thermal acquisition training because it requires training aids that are cumbersome, unreliable, and logistically draining. Today's conventional training aids—thermal blankets—require 12-hour batteries or generators; they are cumbersome; they have to be delivered, installed, and maintained; and they cannot always be used in extreme cold.

To conduct more effective thermal gunnery training, units must have reliable, low-cost, and readily available training aids to support the training, preferably of a kind the units themselves can make. Then they must place more emphasis on target acquisition during all weather and light conditions.

One such thermal acquisition training aid for Bradley and Improved TOW Vehicle (IFV) home station gunnery can be made by a unit from one-sixteenth-inch

sheet metal cut into silhouettes of enemy and friendly vehicles on a one-seventh scale. The silhouettes are then bolted to ammunition cans that have two-inch holes drilled in them for air. The ammunition cans are then filled with charcoal to provide a heat source.

An alternative design can provide two heated surfaces. In this design, two



silhouettes are bolted together with a trap to hold the coals in the bottom.

In both designs, a low-temperature solder can be added to the face of a target to accent such likely vehicle hot spots as the engine, barrel, exhaust, and road wheels.

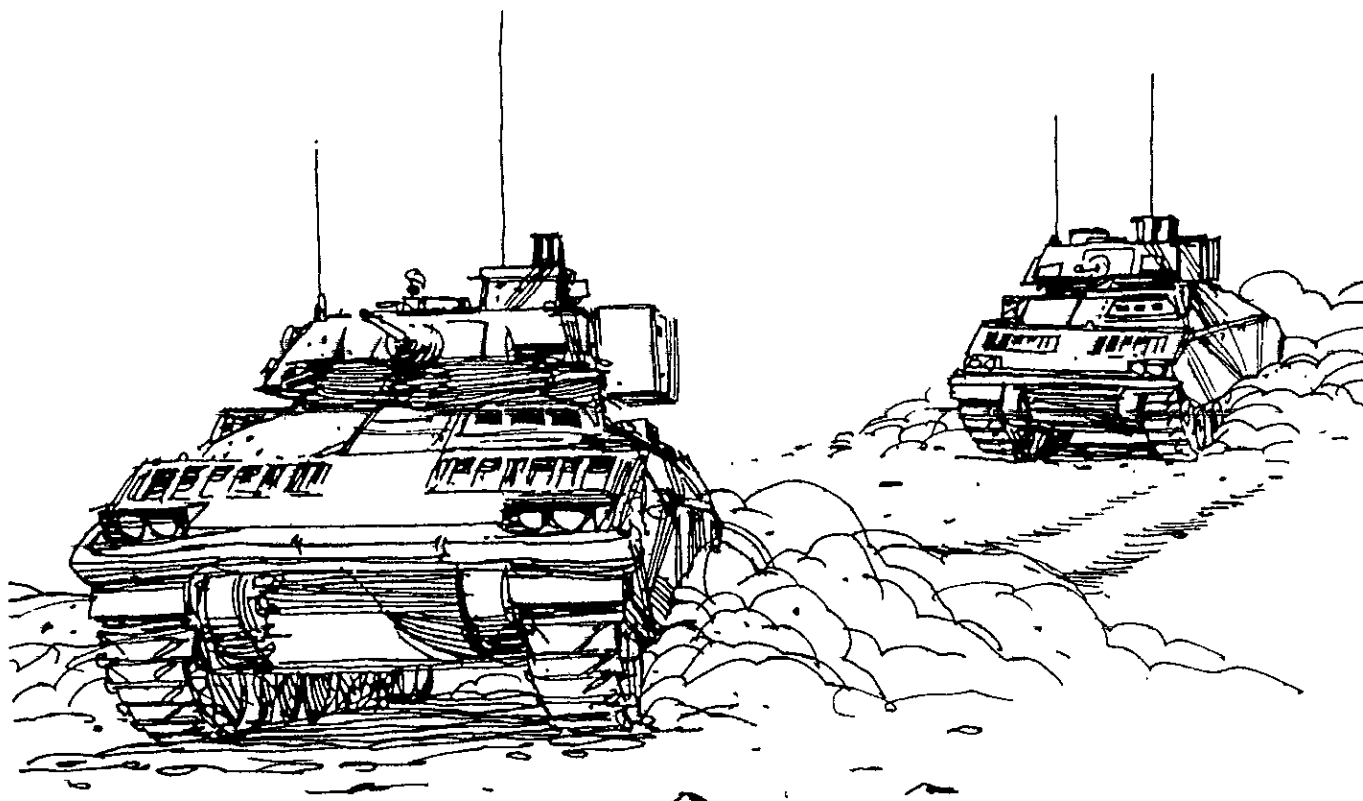
As part of a good overall gunnery program, these training aids provide many benefits. The silhouettes can be used to simulate both friendly and enemy vehi-

cles, thereby training gunners in vehicle identification. They can be used to represent wheeled and tracked vehicles in any formation, which allows a unit to train on crew, section, and platoon fire commands. Intelligence training in spot reports and enemy formations is also possible with these training aids.

The standard M31A1 lift device is also compatible with this training system, but the control box should be protected with aluminum foil. The silhouettes are simply bolted to the two-by-four-inch target supports. The ammunition cans prevent damage to the lift devices.

The targets are durable and allow for training in all kinds of weather. Wind, snow, fog, and rain have little effect on them when they are used with ammunition cans as the charcoal trap. The greatest benefit of this system is that it does not require any outside support. Each company can produce the targets it needs and can deploy to a local training area with only the targets and some charcoal.

No training aid is effective, though,



unless it is incorporated into an effective and sustained thermal gunnery training program.

Commanders must consistently dedicate time on their unit training schedules to the thermal acquisition of stationary targets in all weather and light conditions and to proper fire commands. This lays the groundwork for all thermal gunnery, while the habitual interaction of a crew in limited visibility conditions will establish good crew cohesiveness. Thermal gunnery also requires that added emphasis be placed on precise fire commands and acquisition methods to reduce the time a crew needs to identify and engage targets.

Once the crews demonstrate their proficiency in acquiring stationary unobscured targets, they must progress to identifying obscured targets. These targets are generally obscured by woodlines, defensive positions, or low heat levels. At this level of training, crews can begin moving on oval courses to identify stationary targets, both obscured and unobscured. Again, to prevent the crews from slipping back into using "faster" shortcuts, trainers must

place a high priority on discipline in fire commands and acquisition techniques.

On the oval course, a crew demonstrates its ability to acquire and maintain a steady lead on a stationary target while making only relatively minor changes in direction and attitude. The crew then progresses to a figure-eight type of course on which it engages multiple stationary targets. This course forces the crew members to work together as the vehicle and turret make independent changes in direction and attitude.

The final phase of sustainment training involves the interaction of first the lift devices and then MILES (multiple integrated laser engagement system) devices. Initially, a crew encounters unexpected targets that are raised by radio command. If a crew demonstrates proper techniques and turret manipulation during the dry fire phase, it progresses to a MILES figure-eight course. If a crew fails to meet the course standards, it must return to the previous course for remedial training. The key in this phase is to have the course that prepares crews for the MILES course readily available to facilitate any necessary retraining.

The overall success of a unit's performance on the night qualification tables depends on the emphasis the commander has placed on the thermal target acquisition training. This emphasis must *always* be reflected on the training calendar, not just when the unit is preparing for a gunnery density. Leaders at all levels must share in this emphasis and take part in the training; a leader's own performance on his qualification run sets the standard for the rest of the unit.

By using the locally produced silhouette target system, a unit can deploy and train without the usual support worries. The increased thermal gunnery training of Bradley and ITV units will readily improve the crews' proficiency and their scores on the qualification tables.

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